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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,410	03/22/2004	Akihito Okura	250743US90	9849
22850	7590	04/23/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER PHUNG, LUAT	
			ART UNIT 2616	PAPER NUMBER
			NOTIFICATION DATE 04/23/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/805,410	<b>Applicant(s)</b> OKURA ET AL.	
	<b>Examiner</b> LUAT PHUNG	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The rejections and/or objections in this office action are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

### ***Drawings***

2. Figures 14, 15A and 15B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 6 is rejected under U.S.C. 103(a) as being unpatentable over Colley, et al (US 6,650,644) in view of Applicants' Admitted Prior Art (AAPA, this instant application).

**Regarding claim 6**, Colley discloses a router in an IP network (**background, col. 1, lines 56-58**), comprising a control and relay unit (**Fig. 1, elements 113, 119, 127, 135**) configured to control and route at the router in accordance with first bits for implementing bandwidth control at the router stored in a first area assigned within an IP-header field of an IP packet (**Internal Service Class ISC, i.e., first bits, in IP Header**

**field of data packet, i.e., IP packet, used for congestion control, i.e., bandwidth control, per col. 4, line 31 to col. 6, line 12)**

Colley does not explicitly disclose second bits that indicate a path for routing the IP packet to a destination router at the router stored in a second area also assigned within the IP-header field of the IP packet, wherein the first bits and the second bits do not interfere with each other.

However, Colley discloses additional fields, whose sizes maybe modified, in IP Header in the data packet for QoS management of IP packet routing (**col. 6, lines 1 to 12**). Additionally, AAPA discloses TOS routing bits for multi-path routing class. (**Fig. 15B; page 4, lines 24-26**) Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine Colley's ISC bits for bandwidth control with AAPA's TOS routing bits for routing by implementing them in the IP header. The motivation for doing so would have been to improve QoS management.

7. Claims 1-5 and 7-8 are rejected under U.S.C. 103(a) as being unpatentable over Colley, et al in view of AAPA, and further in view of Beshai, et al (US Pub. 2002/0131363).

**Regarding claims 1 and 5**, Colley discloses a QoS controller, in an IP network having one or more routers (**background, col. 1, lines 56-58**), comprising:

a storing unit (**Fig. 1, element 127; col. 3, lines 16-22**) configured to assign a first bit area and a second bit area within a field in an IP header of an IP packet, and store first bits for implementing bandwidth control at the routers into the first bit area (**Internal Service Class ISC, i.e., first bits, in IP Header field of data packet, i.e., IP**

**packet, used for congestion control, i.e., bandwidth control, per col. 4, line 31 to col. 6, line 12)**

Colley does not explicitly disclose second bits that indicate a path for routing the IP packet to a destination router into the second bit area, wherein the first bits and the second bits do not interfere with each other.

However, Colley discloses additional fields, whose sizes maybe modified, in IP Header in the data packet for QoS management of IP packet routing (**col. 6, lines 1 to 12**). Additionally, AAPA discloses TOS routing bits for multi-path routing class. (**Fig. 15B; page 4, lines 24-26**) Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine Colley's ISC bits for bandwidth control with AAPA's TOS routing bits for routing by implementing them in the IP header. The motivation for doing so would have been to improve QoS management.

The combination of Colley and AAPA does not explicitly disclose a reporting unit configured to report to the routers the first bits and the second bits stored by the storing unit. Beshai from the same or similar fields of endeavor discloses a QoS controller comprising a reporting unit (**Fig. 1, element 26**) configured to report to the routers (**Fig. 1; elements 22**) traffic data and state information (**Fig. 1, lines from elements 22 to 26; para. 13, 15**). Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine the system being able to store router-control and routing bits of Colley and AAPA with the reporting capability of Beshai by having the system reporting these types of bits to the routers in the network. The motivation for such a combination would have been to refine the routing features across the network.

**Regarding claim 2**, the combination of Colley and AAPA does not explicitly disclose wherein the storing unit further comprises a storing-control unit configured to change a ratio of the first bit area to the second bit area so as to store the first bits into the first bit area and the second bits into the second bit area. However Colley discloses a storing-control unit (**Fig. 1, element 26**) configured to change the size of the fields in the TOS field of the IP header, including the ISC field (**col. 5, line 57 to col. 6, line 12**). Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to change the ratio of the first bit area and the second bit area by adjusting the size of the ISC field of Colley in conjunction with the TOS routing field of AAPA to further refine QoS management control.

**Regarding claim 3**, Colley further discloses further comprising a database unit (**Fig. 1, element 119**), wherein the database unit represents a first bit sequence as a router-control class for controlling the routers (**ISC as class for congestion control per col. 4, line 65 to col. 5, line 41**). Colley does not explicitly disclose a second bit sequence as a routing class for routing at the routers, and stores, in accordance with a type of the IP packet, a relationship between the router-control class and the routing class. AAPA discloses TOS routing bits for multi-path routing class (**Fig. 15B; page 4, lines 24-26**), and a relationship between the router-control class and the routing class (**page 3, lines 6-13**). Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine Colley's ISC bits for bandwidth control with AAPA's TOS routing bits for routing by storing them and their relationship in the database. The motivation for doing so would have been to improve QoS management.

The combination of Colley and AAPA does not explicitly disclose:

wherein the reporting unit reports to the routers the relationship, stored at the database unit, between the router-control class and the routing class.

Beshai from the same or similar fields of endeavor discloses:

wherein the reporting unit reports to the routers the relationship, stored at the database unit, between the router-control class and the routing class (**para. 16-19; para. 26, lines 1-5**).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine the system being able to manage router-control and routing bits of Colley with the reporting capability of Beshai by having the system reporting updates related to these types of bits to the routers in the network. The motivation for such a combination would have been to refine the routing features across the network.

**Regarding claim 4**, the combination of Colley and AAPA does not explicitly disclose a corresponding-relationship updating unit configured to change the relationship stored at the database unit, between the router-control class and the routing class, based on the monitored traffic condition. However Colley discloses a corresponding-relationship updating unit (**Fig. 1, element 127**) configured to change the relationship stored at the database unit, between the router-control class and another class, based on the monitored traffic condition (**ISC per col. 5, lines 7-12**). Additionally AAPA discloses a routing class (**TOS routing per page 4, lines 24-26**). Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to



combine Colley's update of QoS relationship with AAPA's TOS routing class by change the relationship between ISC and TOS routing classes. The motivation for doing so would have been to improve QoS management.

The combination of Colley and AAPA does not explicitly disclose:  
a traffic-monitoring unit configured to monitor traffic conditions at the routers;  
wherein the reporting unit reports to the routers the relationship changed by the corresponding-relationship updating unit.

Beshai from the same or similar fields of endeavor discloses:  
a traffic-monitoring unit configured to monitor traffic conditions at the routers (**Fig. 1, element 26; line "Traffic Data" from element 22**);

wherein the reporting unit reports to the routers the relationship changed by the corresponding-relationship updating unit (**para. 16-19; para. 26, lines 1-5**).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine the system being able to manage router-control and routing bits of Colley and AAPA with the reporting capability of Beshai by having the system monitoring traffic conditions and reporting updates related to these types of bits to the routers in the network. The motivation for such a combination would have been to refine the routing features across the network.

**Regarding claims 7**, Colley further discloses a router comprising a setting unit (**Fig. 1, element 127**) configured to set, based on a type of the IP packet, a router-control class to the first bits (**ISC bits per col. 4, line 65 to col. 5, line 12**). Colley does not explicitly disclose setting a routing class to the second bits. However AAPA

discloses TOS routing class. **(page 4, lines 24-26)** Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine Colley's setting ISC bits and other QoS bits with AAPA's TOS routing bits by also setting the TOS routing bits. The motivation for doing so would have been to improve QoS management.

The combination of Colley and AAPA does not explicitly disclose the router is arranged at a boundary of the IP network.

Beshai from the same or similar fields of endeavor discloses a router arranged at a boundary of an IP network **(node in Fig. 1, element 22; para. 28, line 1)**. Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine the router of Colley and AAPA with the network of Beshai by placing the router at the edge of the network. The motivation for such a combination would have been to refine the routing features across the network.

**Regarding claims 8**, the combination of Colley and AAPA does not explicitly disclose further comprising:

a traffic-measuring unit configured to measure volume of traffic flowing into the router; and

a traffic-condition reporting unit, configured to report the measured volume as a traffic report to a QoS controller connected to the IP network, as recited in claim 8.

Beshai from the same or similar fields of endeavor discloses a router comprising: a traffic-measuring unit **(Fig. 1, element 28)** configured to measure volume of traffic flowing into the router; **(para. 51, lines 23-24; para. 87, lines 5-7)** and a traffic-

condition reporting unit (**Fig. 1, element 28**), configured to report the measured volume as a traffic report to a QoS controller connected to the IP network. (**para. 51, lines 26-30**). Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine the router using, router-control and routing bits of Colley and AAPA with the router with traffic measuring and reporting of Beshai by adding the measurements capability on the router. The motivation for such a combination would have been to refine the routing features across the network.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see form 892).

Art Unit: 2616

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luat Phung whose telephone number is 571-270-3126. The examiner can normally be reached on M-Th 7:30 AM - 5:00 PM, F 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. P./

Examiner, Art Unit 2616

/Huy D. Vu/

Supervisory Patent Examiner, Art Unit 2616